

ABSTRACT

A high voltage device for an electrostatic discharge protection circuit is provided. A silicon layer is disposed in a substrate. A first type well and a second type well are disposed in the silicon layer. A lightly doped region of a second type well is located next to the first type well. A heavily doped region of the second type well is located underneath a portion of the first type well and the lightly doped region. A gate structure is disposed over a portion of the first type well and the lightly doped region. A second type first doped region and a second type second doped region are disposed in the lightly doped region and the first type well on each side of the gate structure. An isolation structure is disposed in the lightly doped region. A first type doped region is disposed in the first type well.